

Application Serial No.: 09/847,395
Reply to Advisory Action dated August 6, 2003 and
Office Action dated May 1, 2003

IN THE CLAIMS

1. (Previously Presented) A laminated glazing material with properties of acoustic insulation and mechanical strength, said glazing material comprising two glass sheets and a single-ply intermediate layer abutting the two glass sheets, the intermediate layer being in the form of a polymeric film and having a thickness, wherein the thickness of the intermediate layer is equal to at least $d_{ref} J_{ref}/J_c$, where:

J_c is a critical energy value specific to a material of the intermediate layer and representative of an energy necessary for propagation of a crack initiated in the intermediate layer;

J_{ref} is a reference critical energy value which corresponds to a critical energy value of a polyvinyl butyral (PVB) film and is equal to $35,100 \text{ J/m}^2$ for a temperature of 20°C and for a drawing rate of 100 mm/min applied to the PVB film; and

d_{ref} is a reference thickness which corresponds to that of the PVB film and is equal to 0.38 mm.

2. (Original) The laminated glazing material according to Claim 1, wherein the intermediate layer satisfies acoustic property criteria defined by a bar of 9 cm length and 3 cm width, made of laminated glass comprising two glass sheets of 4 mm thickness joined by the intermediate layer having a thickness of 2 mm, has a critical frequency which differs at most by 35% from that of a glass bar having a same length, a same width and a thickness of 4 mm.

3. (Original) The laminated glazing material according to Claim 1, wherein the intermediate layer has a loss factor greater than 0.6 and a shear modulus of between 1×10^8 and $2 \times 10^7 \text{ N/m}^2$ in a temperature range of between 10 and 60°C and in a frequency range of

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between 50 and 10,000 Hz.

4. (Canceled)
5. (Canceled)
6. (Canceled)

7. (Previously Presented) A polymer film having a thickness for use as only one intermediate layer of a laminated glazing material, wherein the thickness is equal to at least $d_{ref} J_{ref}/J_c$, where:

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and
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J_c is a critical energy value specific to a material of the intermediate layer and representative of an energy necessary for propagation of a crack initiated in the intermediate layer;

J_{ref} is a reference critical energy value which corresponds to the critical energy value of a polyvinyl butyral (PVB) film and is equal to $35,100 \text{ J/m}^2$ for a temperature of 20°C and for a drawing rate of 100 mm/min applied to the PVB film; and

d_{ref} is a reference thickness which corresponds to that of the PVB film and is equal to 0.38 mm.

8. (Canceled)
9. (Canceled)

10. (New) The polymer film according to Claim 7, wherein the intermediate layer satisfies acoustic property criteria defined by a bar of 9 cm length and 3 cm width, made of laminated glass comprising two glass sheets of 4 mm thickness joined by the intermediate layer having a thickness of 2 mm, has a critical frequency which differs at most by 35% from that of a glass bar having a same length, a same width and a thickness of 4 mm.

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11. (New) The polymer film according to Claim 7, wherein the intermediate layer has a loss factor greater than 0.6 and a shear modulus of between 1×10^8 and 2×10^7 N/m² in a temperature range of between 10 and 60°C and in a frequency range of between 50 and 10,000 Hz.

12. (New) The laminated glazing material according to Claim 1, wherein the polymer film is a composite comprising a polymer and reinforcing fibers embedded in the polymer.

13. (New) The polymer film according to Claim 7, wherein the intermediate layer is a composite comprising a polymer and reinforcing fibers embedded in the polymer.